Carbon Pollution Standards for Existing Power Plants

MA SIP Steering Committee Meeting
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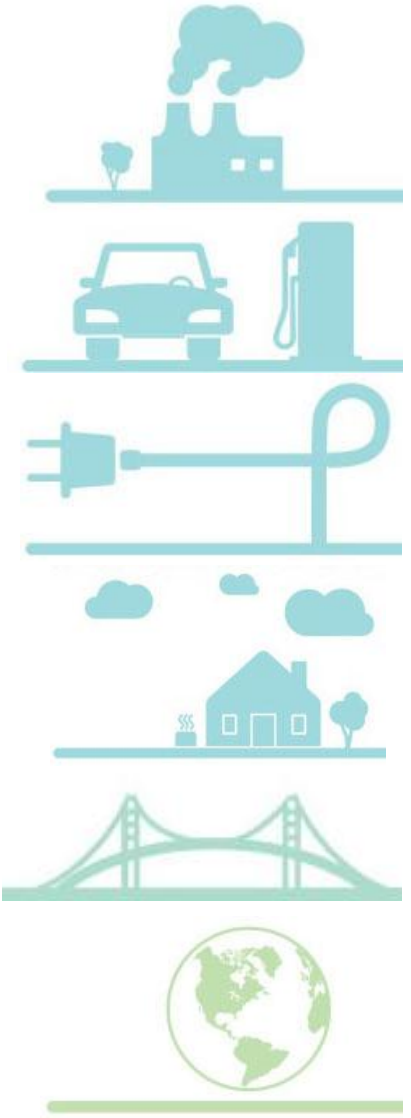
The President's June 2013 Climate Action Plan

- Calls on the federal government to work with states, cities, industries, consumers and the international community to address one of the greatest challenges of our time

- Reinforces the federal commitment to:
  - Cut harmful pollution
  - Protect our country from the impacts of climate change
  - Lead an international effort to address a changing climate

- EPA's Role:
  - Includes reducing carbon pollution from power plants



CARBON POLLUTION IS THE BIGGEST DRIVER OF CLIMATE CHANGE

U.S. GREENHOUSE GAS POLLUTION INCLUDES:

CARBON DIOXIDE (CO_2) — 84%

Enters the atmosphere through burning fossil fuels (coal, natural gas, and oil), solid waste, trees and wood products, and also as a result of certain chemical reactions (e.g., manufacture of cement).

FLUORINATED GASES — 2%

Hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride are synthetic, powerful greenhouse gases that are emitted from a variety of industrial processes.

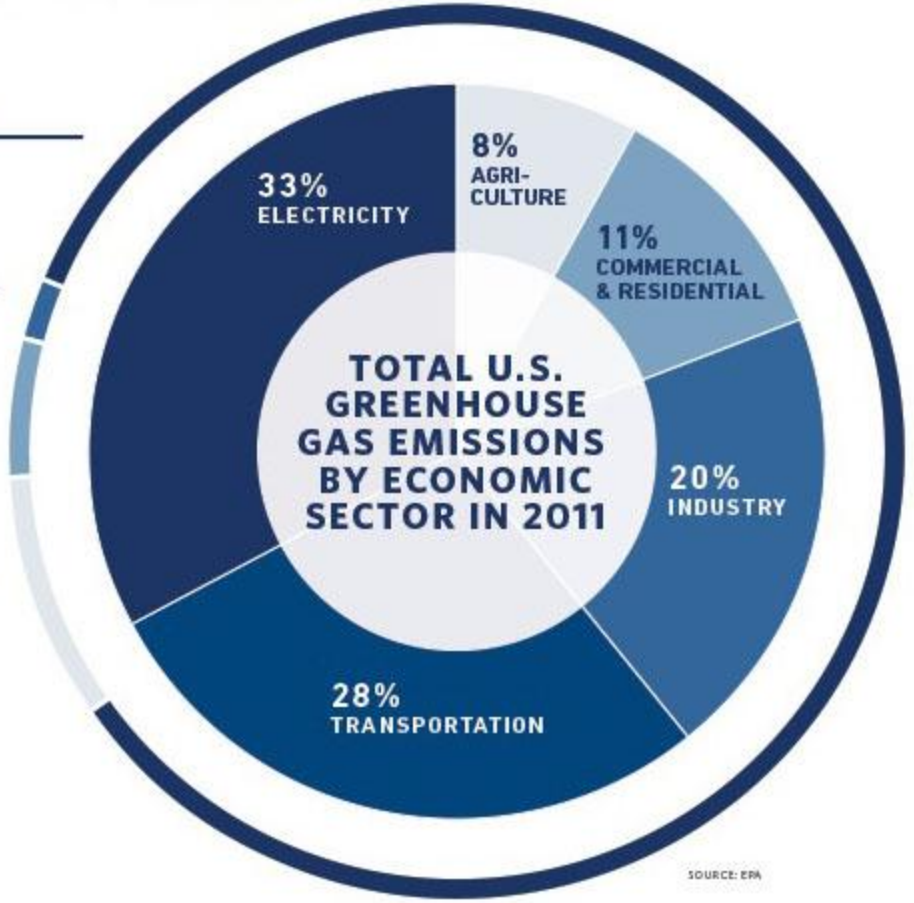
NITROUS OXIDE (N_2O) — 5%

Emitted during agricultural and industrial activities, as well as during combustion of fossil fuels and solid waste.

METHANE (CH_4) — 9%

Emitted during the production and transport of coal, natural gas, and oil as well as from landfills.

SOURCE: EPA



Reducing Carbon Pollution from Power Plants

The President's Directive to EPA:

- Set flexible carbon pollution standards, regulations or guidelines, as appropriate, for power plants under section 111 of the Clean Air Act
- Engage with stakeholders to design a program for existing power plants
  - States
  - Leaders in the power sector
  - Labor leaders
  - Non-governmental organizations
  - Tribal Officials
  - Members of the public

Clean Air Act Section 111

- Establishes a mechanism for controlling air pollution from stationary sources
  - Applies to sources for which the Administrator, in her judgment, finds "causes, or contributes significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare"
  - Can apply to new, existing, modified and reconstructed sources.

- More than 70 stationary source categories and subcategories are currently regulated under section 111
  - A full list of sources regulated under section 111 can be found in 40 CFR Part 60

Clean Air Act Section 111

- Lays out different approaches for new and existing sources
  - **New sources under section 111(b)**
    - Federal standards for new, modified and reconstructed sources
  - **Existing sources under section 111(d)**
    - State programs for existing sources that are equivalent to federal guidelines

Regulatory Timeline

- Carbon pollution standards, regulations or guidelines, as appropriate, for:
  - **New power plants – 111(b)**
    - Proposed on September 20, 2013
  - **Modified and reconstructed power plants – 111(b)**
    - Proposal: June 2014
    - Final: June 2015
  - **Existing power plants – 111(d)**
    - Proposed Guidelines: June 2014
    - Final Guidelines: June 2015
    - State plans due: June 2016

Section 111(b): New Power Plants

- On September 20, 2013, EPA announced the first steps to reduce carbon pollution from power plants under the President's Climate Action Plan

New Proposal for New Sources

- Sets separate standards for different types of new power plants
- Reflects more than 2.5 million public comments and recent trends in the electric power sector
- Maintains similar level of environmental protection
- Withdraws April 2012 proposal in a separate action

Section 111(b): New Power Plants

» Summary of proposed carbon pollution standards, issued on Sept. 20, 2013

		Proposed Limits (lb/MWh-gross)	*Taking comment on range of…*
Natural gas combined cycle	Large (> 850 mmBtu/hr)	1,000	*950 – 1,100*
	Small (≤ 850 mmBtu/hr)	1,100	*1,000 – 1,200*
Fossil Fuel-fired Boilers and IGCC (coal-fired)	12 operating month (1 year)	1,100	*1,000 – 1,200*
	84 operating month (7 years)	1,000-1,050 (in this range)	*1,000-1,050 (same as proposal)*

EPA will follow the agency's open and transparent review process, including public comment and a public hearing

Section 111(d): Existing Power Plants

- EPA will issue federal carbon pollution standards, regulations or guidelines, as appropriate for states
  - EPA will work in partnership with states
  - Federal guidelines should build on states' leadership and experience with programs that reduce GHGs
  - EPA will follow the agency's open and transparent review process, including public comment and a public hearing
- States will develop plans that set standards for existing sources, using EPA guidelines as a reference

Clean Air Act Section 111(d)

- Opportunity to build emissions control into a source's design is greater for new sources than for existing sources
- President directed EPA to collaborate with diverse group of stakeholders to set flexible carbon pollution guidelines for existing power plants
  - Set through a federal-state partnership that includes federal guidelines and state plans
- Focus on these elements to design the guidelines:
  - Stakeholder engagement on program design
  - Flexibilities in the program design (market-based instruments, performance standards, others)
  - Costs (tailor regulations and guidelines to reduce costs)
  - Continued importance of relying on a range of energy sources
  - Other regulations that affect the power sector
- Guidelines for currently operating sources are expected to be different from and less stringent than, the standards the agency is proposing for future plants

Section 111(d): Past Experience

- Five existing 111(d) regulations
  - Sulfuric acid plants (acid mist)
  - Phosphate fertilizer plants (fluorides)
  - Primary aluminum plants (fluorides)
  - Kraft pulp plants (total reduced sulfur)
  - Municipal solid waste landfills (landfill gases)
- How 111(d) has worked:
  - Description of BSER (best system of emissions reduction)
  - Degree of emissions limitation achievable
  - Costs and environmental impacts of application
  - Time required to implement the guidelines
  - Other information to facilitate development of state plans
  - A goal for reductions or “standard of performance” based on BSER

Outreach & Engagement

PURPOSE

- Engage a wide variety of stakeholders
- Gather ideas and look at solutions
- Better understand the range of views about how this program could be designed

Public Engagement

- Public Listening Sessions Nationally
  - 11 sessions, 3300 attendees, 1600 speakers
- Public Listening Session in Boston
  - 138 attendees, 74 speakers
  - Attendees included: public officials, industry, unions, businesses, faith-based organizations, NGOs, academics, and citizens.
- New England State Energy & Environment Officials Conference Call
  - Environment agencies, Energy Agencies, Public Utility Commissions
- ISO-New England Listening Session
- New England Tribes Conference Call

Sampling of what we heard…

- Impacts of climate change caused by carbon dioxide
- Mass-based vs. rate-based standard
- Renewable energy, energy efficiency
- Regional approach
- RGGI as a compliance pathway or model for national program
- Best System of Emissions Reduction to encompass entire electric system
- Co-benefits of carbon dioxide reduction measures
- Demand and supply side solutions
- Job transition support for displaced workers
- Affordability and reliability of energy and fuel supply
- Credit for early adopters of carbon reductions
- Maximum flexibility in timelines, approaches for states
- Multi-stage program
- Measurement and verification
- State-wide targets vs. firm limits by facility

Next Steps

- Begin writing guidelines using wealth of input and feedback received
- Propose guidelines by June 2014
- Finalize by June 2015
- Receive state plans by June 2016

For more information, visit:

http://www2.epa.gov/carbon-pollution-standards